

Iowa Wood By- Product Workshop Wood-to-Energy

Air Quality Permitting

IDNR Permitting

- Air Construction Permit is required prior to installing equipment, if emissions, specifically, criteria pollutants, controlled or not, are emitted directly to the atmosphere.

Subrule 567 IAC 22.1

- States in part that no person shall construct, install, reconstruct or alter any equipment or control equipment without first obtaining an air construction permit.
- Existing sources – sources built prior to September 23, 1970 are not subject to permitting, unless they have been modified from their original design.

Criteria Pollutants:

- Particulate Matter
- NO_x
- SO_x
- CO (Carbon Monoxide)
- VOC's (Volatile Organic Compounds)
- Lead

Where to start in obtaining an air construction permit?

Start by contacting IDNR's Air Quality Bureau.

1-877-AIR IOWA
(1-877-247-4692)

You will speak directly to an engineer in permit section.

- For permitting assistance, contact:

Iowa Waste Reduction Center at The University of Northern Iowa.

- They offer **free**, onsite, non-regulatory assistance to small businesses, for writing air construction permit applications.

319-273-8905

Ask for Dan Nickey, Program Manager

Permitting for what???

- If you install a piece of equipment that burns wood and the resulting emissions are vented to the atmosphere, you may or may not be required to first obtain an Air Construction Permit through Iowa DNR
- There may be an exemption that applies to your application.

Permitting exemption

- 567 IAC 22.1(2)"b" – states that fuel burning equipment for **indirect** heating with a capacity of less than 1 million Btu per hr input per combustion unit when burning coal, untreated wood, untreated seeds or pellets, other untreated vegetative material or fuel oil.
- *(Example = wood fired boiler)*

Indirect Heating

A wood fired boiler is a good example of indirect heating, as you are heating a water filled tube. There must be a heat exchanger involved to qualify as indirect heating.

Direct Heating

- There is no specific exemption for wood-fired fuel burning equipment used for direct heating. An example of this would be an incinerator, where the fire comes into direct contact with the media intended to be heated or incinerated.

Definition of “Untreated”

567 IAC 20.2

- Wood or wood products that have not been treated with compounds such as, but limited to, paint, pigment-stain, adhesive, varnish, lacquer, or resin, or have been pressure treated with materials such as chromate copper acetate, pentachlorophenol or creosote. As for seeds or pellets, they can not be treated with pesticides or fungicides.

NSPS Subpart Dc

- Boilers rated at greater than 10 MMBtu/hr will be subject to 40 CFR Part 60, Subpart Dc. (Sets emission standards for SOX, Particulate, stack testing, recordkeeping etc.)
- For units greater than 30 MMBtu/hr, there are additional emission limits for Particulate Matter.

Know your wood

The BTU content of wood varies greatly.

Dry wood is preferred versus “wet” wood or green wood (obviously).

Prior to obtaining an air construction permit, you will need to know the type of wood that you would plan on burning.

Air Pollution Control Equipment

- Wood fired boilers tend to be equipped with multiclones for control of Particulate Matter.
- CO, NO_x and VOC are minimized by proper operation of the boiler.
- SO₂ is usually not an issue because of the low sulfur content of wood.

Opacity

- Paragraph 567 23.3(2)"d" – states that no person shall allow, cause or permit the emission of visible air contaminants into the atmosphere from any equipment, internal combustion engine, open fire, or stack, equal to or in excess of 40% opacity.



Questions?

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